AMENDMENTS

IN THE CLAIMS:

Please cancel claims 12-18 as provided below.

1.   (Cancelled).

2.   (Previously Presented) A tracking system comprised in a receiver, the tracking system tracking rapid changes in frequency and phase offset, wherein said tracking system comprises a first system performing a pilot-based phase and frequency tracking, wherein said tracking system also comprises a second system performing data-based phase and frequency tracking, and a control system connected to said first system and to said second system gradually reducing an effect of said first system, wherein said control system comprises at least one weighting component gradually decreasing weight factors associated therewith to gradually reduce said effect of said first system.

3.   (Original) A tracking system according to claim 2, wherein said control system also comprises a first estimating component operable to perform an estimate of the phase of the received symbol, and a phase differentiator connected to said first estimating component that is operable to calculate the phase increment between two consecutive symbols, and a first weighting component connected to said phase differentiator, and a frequency scaling component connected to said first weighting component that is operable to scale the weighted value to obtain a frequency correction increment output.

4.   (Original) A tracking system according to claim 3, wherein said control system also comprises a second weighting component connected to said phase differentiator that is operable to multiply said phase increment with a weight factor, and a phase integrator connected to said second weighting component that is operable to

sum together all of said individual phase increments to obtain a phase error estimate output.

5.   (Original) A tracking system according to claim 4, wherein said control system also comprises a symbol counter component connected to said first weighting component and to said second weighting component that is operable to count the symbols in order to use a weight factor that depends on the symbol number.

6.   (Original) A tracking system according to claim 5, wherein said system comprises a frequency correction component operable to correct a frequency error of a received symbol, a transforming component connected to said frequency correction component that is operable to perform a Fourier transform operation resulting in a number of independently modulated subcarriers, wherein said transforming component is connected to said first estimating component and said frequency scaling component is connected to said frequency correction component, wherein said tracking system also comprises a phase correction component operable to perform a correction of the symbol phase, which phase correction component also is connected to said phase integrator, a demodulating component connected to said phase correction component that is operable to demodulate said phase-corrected symbol to produce a data stream, a remodulating component connected to said demodulating component that is operable to remodulate said data stream, a frequency estimation component connected to said remodulating component, and an error correction component connected to said demodulating component resulting in said final estimate of the received data symbols.

7.   (Original) A tracking system according to claim 6, wherein said weight factors are set to 1 up to where a transition from a pilot-based phase and frequency tracking to a data-based phase and frequency tracking is to occur.

8.   (Original) A tracking system according to claim 7, wherein said weight factors for the same symbol number are equal for said first weighting component and for said second weighting component.

9.   (Original) A tracking system according to claim 7, wherein said weight factors for the same symbol number are unequal for said first weighting component and for said second weighting component.

10-11. (Cancelled).

12-18. (Cancelled).

19-22. (Cancelled).